ANDREW CHU

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EDUCATION

University of Waterloo	May 2029
Bachelor of Computer Science - Dean's Honours List	*Waterloo, ON*

SKILLS

Languages: Java, Python, C/C++, JavaScript, TypeScript, CSS, HTML, Go, Dart, PowerShell, Bash
Frameworks: React, Flask, TailwindCSS, SvelteKit, Firebase, Express, MongoDB, Jest, FastAPI, Next, MySQL, Supabase
Developer Tools: Linux, Git, GitHub, Node, Figma, Docker, Postman, WSL, Vite, Vercel, Cursor

EXPERIENCE

Data Engineer Intern	Aug. 2024 - Sep. 2024
Alljoined	*Toronto, ON*

- Responsible for data preprocessing, **brainwave data collection pipeline**, and quality validation of collected data
- Identified a crucial timing issue in **EEG data preprocessing** by implementing data logging system in **Python**
- Reduced data collection script performance by **20x** by refactoring **WebSocket** script to prevent deadlocking
- Processed collected data by denoising, performing artifact correction using **NumPy**, **Pandas**, and **scikit-learn**

Full-Stack Developer	Sep. 2022 - Jan. 2023
Digitera Interactive	*Ottawa, ON*

- Contributed to the "Skule News" project, a **mobile school news app** to streamline student communication
- Reduced frequency of in-app crashes by **20%** by resolving **6+** bugs resulting from incorrect **Firebase** queries
- Engineered **image preview feature** when uploading or editing articles in **Flutter**
- Integrated **Firebase** for user authentication, real-time updates, and cloud storage, ensuring secure and scalable backend support

Tech Lead, Logistics Lead	Nov. 2022 - Jan. 2024
Equinox Coding	*Richmond Hill, ON*

- Coordinated logistics for two virtual hackathons for 120+ participants, raising over **$8,000 value** in prizes
- Deployed 2 hackathon websites written in **SvelteKit** and **React** with responsive web layouts and animations
- Created and monitored event planning timelines and scheduled task deadlines, ensuring successful event delivery

PROJECTS

Replate - Food Sustainability and Delivery App | *NextJS, React, Express, MongoDB, Flask, Cohere, Gemini, Twilio*

- Achieved **AI Eco-Mobility Award** at GenAI Genesis among 600+ competitors
- Engineered a meal recommendation system using a dual-agent pipeline with **Cohere Command R** and **Gemini**, combining user preferences with restaurant data from the *Too Good to Go* platform
- Utilized **Express** backend to serve live delivery updates via **Twilio** SMS notifications

Workout Tracker - MERN Workout Tracking Website | *MongoDB, Express.js, React, Node, JavaScript, JWT*

- Developed a workout tracker full-stack application that allows users to log their workouts and track their progress
- Architected scalable REST API backend with **MVC** pattern, integrating **JWT** for authentication and validating **CRUD** endpoint reliability with **Postman**
- Developed modular components using providers, hooks, and reducers, enabling scalable future development

Baseline - EEG Fatigue Tracker | *Python, FastAPI, SciPy, NumPy, MNE, Matplotlib, React, Jupyter*

- Achieved **2nd Place in "Best in Neurotech"** category at Hack49 among 120+ participants and 40+ projects
- Analyzed brain wave data in under **1 second** with statistical testing methods using **MNE, SciPy**, and **NumPy**
- Designed data transformation pipeline converting large misformatted brain data files into processable chunks

Eyedentify - Facial Recognition Attendance Tracker | *Python, Flask, React, MediaPipe, RESTful APIs*

- Developed a facial recognition attendance tracker capable of identifying multiple people from a single picture
- Achieved **2nd Place Overall** and **"Best Web App"** at YRHacks 2023 among **350+ participants**
- Implemented a **REST API** using **Flask** to analyze photos sent from a responsive **React** dashboard application